

CLAIMS

What is claimed is:

1. An antenna unit provided in a wireless communication apparatus which performs wireless communication, said antenna unit comprising:

a radio wave resonance part through which a radio wave is transmitted or received;

an antenna ground part electrically connected to said radio wave resonance part; and

a connection part which fixes said antenna ground part at such a position that said antenna ground part is closer to said radio wave resonance part than other ground parts of the wireless communication apparatus.

2. The antenna unit according to Claim 1, wherein said antenna ground part is formed integrally with said radio wave resonance part.

3. The antenna unit according to Claim 1, further comprising a feeder laid to said radio wave resonance part at a distance from said antenna ground part and having a shielding conductor connected to said antenna ground part.

4. The antenna unit according to Claim 3, wherein the shielding conductor of said feeder is connected to said antenna ground part on the opposite side of said antenna ground part from said radio wave resonance part.

5. The antenna unit according to Claim 1, wherein the wireless communication apparatus has a display panel, and said antenna ground part extends outward from a side surface of the display panel away from the display panel.

6. The antenna unit according to Claim 5, wherein said antenna ground part is positioned adjacent to a region on the display direction side of the display surface of the display panel and on the display panel side of said radio wave resonance part.

7. The antenna unit according to Claim 5, wherein said radio wave resonance part has:

a radio wave resonance side part extending from said antenna ground part along the display direction of the display panel; and

a radio wave resonance upper part opposed to said antenna ground part and extending from said radio wave resonance side part so as to be closer to the display panel.

8. The antenna unit according to Claim 1, wherein said radio wave resonance part has:

a first radio wave resonance element; and

a second radio wave resonance element having at least a portion extending in a direction along a longer side of said first radio wave resonance element, its one end connected to said antenna ground part, and the other end connected to said first radio wave resonance element,

wherein said first radio wave resonance element transmits or receives a radio wave longer in wavelength than a radio wave transmitted or received by said second radio wave resonance element.

9. An antenna unit provided in a wireless communication apparatus which performs wireless communication, said antenna unit comprising:

a radio wave resonance part through which a radio wave is transmitted or received;

an antenna ground part connected to ground;

a connection part which fixes said antenna ground part at such a position that said antenna ground part is closer to said radio wave resonance part than other ground parts of the wireless communication apparatus; and

a feeder laid to said radio wave resonance part at a distance from said antenna ground part, a shielding conductor of said feeder being connected to said antenna ground part on the opposite side

of the antenna ground part from said radio wave resonance part, a signal conductor of said feeder being connected to said radio wave resonance part.

10. A wireless communication apparatus which performs wireless communication, said apparatus comprising:

a radio wave resonance part through which a radio wave is transmitted or received;

an antenna ground part electrically connected to said radio wave resonance part; and

a connection part which fixes said antenna ground part at such a position that said antenna ground part is closer to said radio wave resonance part than other ground parts of the wireless communication apparatus.

11. The wireless communication apparatus according to Claim 10, comprising:

first and second radio wave resonance parts corresponding to said radio wave resonance part;

first and second antenna ground parts corresponding to said antenna ground part and respectively connected to said first and second radio wave resonance parts; and

first and second connection parts corresponding to said connection part, said first and second connection parts fixing said first and second antenna ground parts at such positions that each antenna ground part is closer to said first or second radio wave resonance part than other ground parts of the wireless communication apparatus,

wherein each of said first and second radio wave resonance part than other ground parts is used in common in a first frequency band and in a second frequency band for transmission or reception; and

the gain of said second radio wave resonance part in the first frequency band is lower than that of said first radio wave resonance part, and the gain of said second radio wave resonance part in the second frequency band is higher than that of said first radio wave resonance part.

12. A wireless communication apparatus which performs wireless communication, said apparatus comprising:

a radio wave resonance part through which a radio wave is transmitted or received;

an antenna ground part connected to ground;

a connection part which fixes said antenna ground part at such a position that said antenna ground part is closer to said radio wave resonance part than other ground parts of the wireless communication apparatus; and

a feeder laid to said radio wave resonance part at a distance from said antenna ground part, a shielding conductor of said feeder being connected to said antenna ground part on the opposite side of the antenna ground part from said radio wave resonance part, a signal conductor of said feeder being connected to said radio wave resonance part.